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ON *Deflandrea victoriensis* N.SP., *D. tripartita* COOKSON AND EISENACK, AND RELATED SPECIES

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Abstract

The Victorian form of *Deflandrea* included in *D. tripartita* by Cookson and Eisenack (1961) has been removed from that species and redescribed under the name *Deflandrea victoriensis*. An emended description of *D. tripartita* Cookson and Eisenack (1960) is given. Comparisons between *D. victoriensis* and closely related species are included.

Introduction

Deflandrea tripartita Cookson and Eisenack (1960) was originally based on a few specimens of distinctive shape from an Upper Cretaceous deposit in Western Australia. In the specific description the theca-membrane was given as 'finely to coarsely granular'. Later (Cookson and Eisenack 1961), some specimens from the Belfast Mudstone, a Victorian Upper Cretaceous deposit, were identified with *D. tripartita*. These, while resembling the holotype in shape, were said to be ornamented 'with minute rods rather than granules'.

Some difficulty in distinguishing between *D. tripartita sensu* Cookson and Eisenack (1961) and another Australian species *D. micracantha* Cookson and Eisenack (1960) has been expressed by Douglas (1961, p. 20). In order, therefore, to clear the position regarding these 3 Australian forms of *Deflandrea*, the type specimens of both *D. tripartita* and *D. micracantha*, generously made available by the Director of the National Museum of Victoria, have been re-examined and compared with 60 examples of the Victorian form referred by Cookson and Eisenack to *D. tripartita*.

As a result, the conclusion has been reached that the 3 types mentioned above are specifically distinct and that the Victorian form attributed to *D. tripartita* should be raised to specific rank.

The relationship of these 3 Australian species to *D. granulifera* Manum (1964) will be considered.

Descriptions

Genus **Deflandrea** Eisenack

Deflandrea tripartita Cookson and Eisenack 1960 emend.

(Pl. LXXVI, fig. 1, 2; holotype Nat. Mus. Vic. P17795)

Deflandrea tripartita Cookson and Eisenack 1960, p. 2, Pl. 1, fig. 10.

Occurrence: N. of Gingin, Western Australia. Wapet's Seismic shot hole Bore 1 at 160 ft.

Age: Probably Upper Turonian to Middle Senonian.

Description: Emended on the basis of the holotype. Theca elongate, equally divided by an inconspicuous girdle. The middle portion of the theca, which is almost

entirely filled with a large capsule, is widest in the region of the girdle and rather abruptly narrowed from thence towards both the upper and lower limits of the capsule. Above the upper limit of the capsule the theca bulges prominently before terminating in a short, broad, bluntly pointed horn. The theca-membrane is *c.* 1·0 μ thick and perfectly smooth in optical section; in surface view a fine pattern is faintly visible under an oil immersion lens (n.a. > 1·0). The wall of the capsule, which is finely but distinctly granular, varies in thickness being *c.* 2·5 μ anteriorly and posteriorly and *c.* 1·0 μ where it is in contact with the theca. The intercalary archeopyle is somewhat elongate and trapezium-shaped.

Dimensions of Holotype: 100 μ long, 59 μ broad.

Comment: The girdle in the holotype is ill-defined and mainly indicated by two pairs of short, low, parallel ridges, one on either side of the ventral surface at short distances from the lateral margins of the theca. The direction of these ridges indicates that the girdle was slightly laevo-rotatory. In the middle of the dorsal surface, a fold-like line which seems to represent a portion of the girdle and its borders is indicated. The apparent discontinuity of the girdle on the ventral surface suggests that it may have been 'broken' in a manner similar to that characterizing certain other species of *Deflandrea* (Manum 1964), including *D. victoriensis* n. sp. As in these forms, the more prominent antapical horn in *D. tripartita* is on the left hand side of the hypotheca.

Deflandrea victoriensis n. sp.

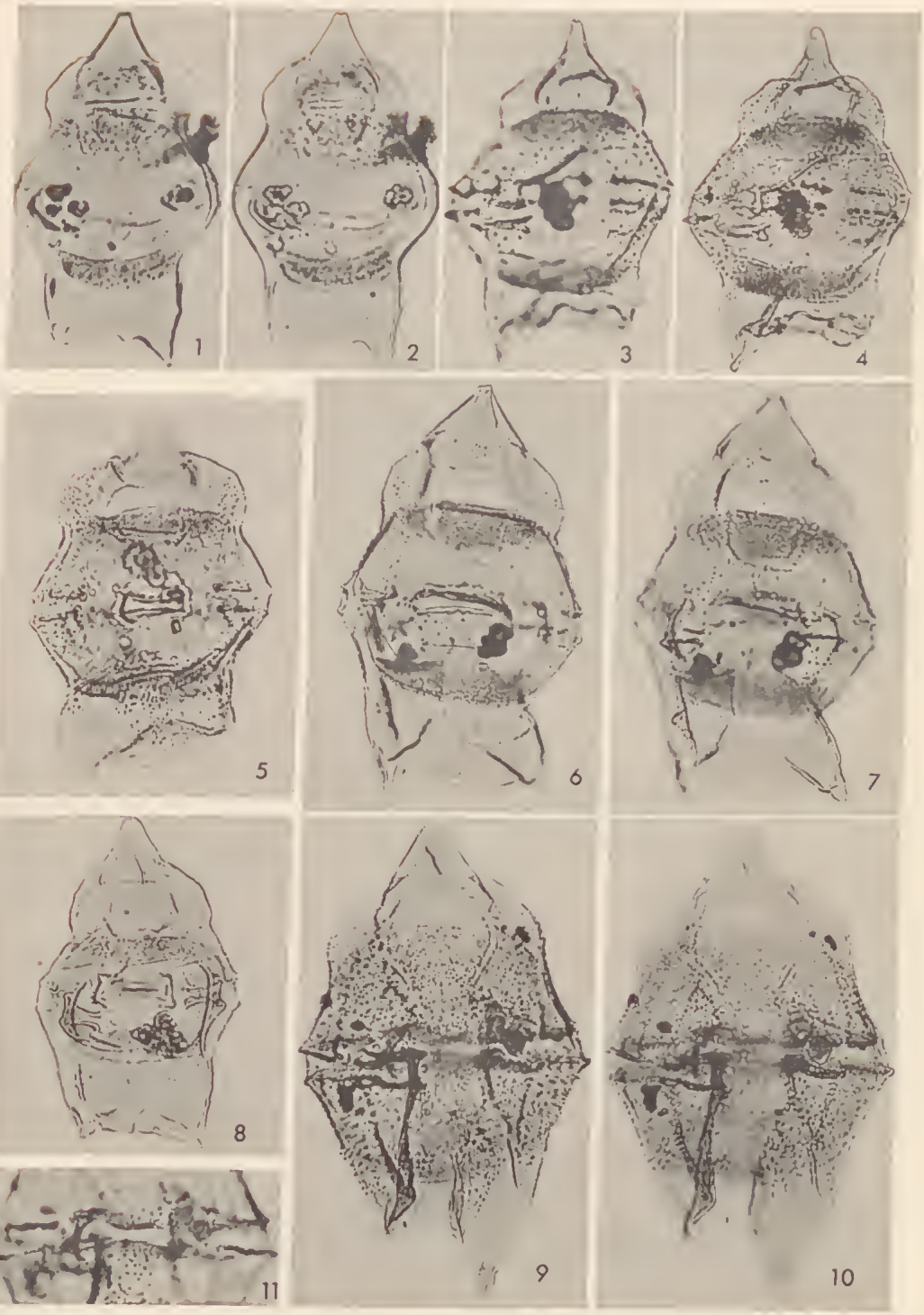
(Pl. LXXVI, fig. 3-8; holotype fig. 3, 4; Nat. Mus. Vic. P22986)

Deflandrea tripartita Cookson and Eisenack 1961, p. 70, fig. 1.

Age and Occurrence: SW. Victoria—Belfast Mudstone interseeted by the Belfast No. 4 Bore between 4,492 and 4,499 ft and at 4,652 ft, and by Frome-Broken Hill's Pretty Hill No. 1 Bore at 2,726-2,734 ft, Port Campbell No. 2 Bore at 7,093-7,103 ft and Port Campbell No. 3 Bore at 4,400-4,410 ft. Age probably Senonian.

Description: The theca is elongate and divided approximately equally by a slightly laevo-rotatory girdle, the borders of which are interrupted dorsally at some distance on either side of the mid-line of the theca and ventrally near the lateral margins. The middle portion of the theca is conspicuously convex when viewed dorsoventrally and is filled with a large capsule. Above the upper limit of the capsule the theca bulges to varying degrees. The apex is rounded and the apical horn broadly triangular. The hypothecal portion below the lower limit of the capsule is of almost uniform width or slightly widened towards the antapex, which is more or less obliquely truncate with the longer left-hand side usually terminating in a short, pointed horn. The wall of the theca is *c.* 1·0-1·7 μ thick and ornamented with fairly evenly scattered rod-like projections *c.* 0·5-1·5 μ long; in surface view the rods appear as dots usually between 0·5 and 1·0 μ in diameter but a few smaller and larger ones are usually present. The girdle is bordered by conspicuous ridges or by linearly arranged wart-like thickenings of varying size and shape. The wall of the capsule varies in thickness, being thinnest, less than 1 μ, where it is in contact with the theca and thicker, over 1 μ, in both anterior and posterior regions where it is also more conspicuously granular. The intercalary archeopyle is rounded to equilaterally hexagonal.

Dimensions: Holotype: 112 μ long, 73 μ wide. Range: overall length 76-116 μ, width 49-73 μ. Average of 57 examples 98·0 × 59·5 μ.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